

XLIV.—On the Mollusca of the Upper Harz.

By J. GWYN JEFFREYS, Esq., F.R.S.

DURING a visit with my family this autumn to the northern part of the Harz, I assisted my son and one of his sisters in collecting the land and freshwater Mollusca there; and the following notice of some of the less common species may be useful with reference to their geographical distribution. Neither Carl Pfeiffer, Rossmässler, nor (as I believe) any other conchologist has indicated any localities in this part of Germany.

Limax arborum. Occasionally in the woods about Alexisbad.

L. Sowerbyi. Under stones at Falkenstein and other places; not common.

Succinea Pfeifferi. With *S. putris*, near Alexisbad; but less common than that species.

S. oblonga. With the last; not common.

Vitrina diaphana. Under stones in the woods about Alexisbad; common.

Helix fruticum, var. *rufescens*. On shrubs and nettles in the same woods. Adult specimens are rare.

H. incarnata. In the same woods, and at the Rosstrappe; rather common.

H. strigella. Rubeland; rare. A half-grown specimen contained the larviform pupa of *Drilus flavescens*, the female of which has been named *Cochleoctonus vorax*, from its snail-eating habit. I found a similar pupa, five years ago, in a *Helix incarnata* near Lausanne in Switzerland, which, as in the present case, completely occupied the spire of the shell after devouring its former inhabitant.

H. lapicida, var. *pallida*. On rocks near Alexisbad; rare.

H. pygmæa. In the woods near Alexisbad; not common.

H. pomatia. It is remarkable that, although we diligently searched for several weeks the environs of Alexisbad, not a single specimen was found by us; and the residents at that place said they had not met with it. It is common in other parts of the Harz. This shows how irregular and apparently capricious is the distribution of some species.

Zonites alliarius. Rosstrappe, where only one specimen occurred to us.

Z. nitens (Michaud). In woods at different places; common. It appears to have been confounded, in this country, with the *Helix nitidula* of Draparnaud.

Z. nitidus. In marshy places near Alexisbad and Harzgerode; common.

Z. radiatulus, and var. *pallida* (*Helix viridula*, Menke). In the woods and under stones near Alexisbad, Harzgerode, and Stolberg; common.

Z. purus. With the last; but rare.

Bulimus Lackhamensis. In the woods at Alexisbad; rare.

Azeca tridens. With the last; not common.

Zua lubrica, var. *pallida* and var. *gracilis*. With the last; not uncommon.

Clausilia plicata. On the castle-walls at Stolberg; not common.

C. biplicata, and var. *alba*. On rocks near Alexisbad; local.

C. plicatula. On rocks and trees at the same place; common. The authors of the 'British Mollusca' were mistaken in referring the *C. Rolphii* of Gray to this species. The form, sculpture, and dentition of each of these species are very different; and they have been properly separated by Moquin-Tandon in his valuable work on the French land and freshwater Mollusca.

C. dubia. With the last, and equally common. Whether it is specifically distinct from *C. nigricans* is, however, questionable.

C. parvula. On rocks in the woods at Alexisbad; common.

Balea fragilis. On rocks and trees near Alexisbad; not uncommon.

Vertigo pusilla. In the woods at Alexisbad; not uncommon.

V. edentula. With the last; rare.

V. alpestris. Under stones and on moss in the same woods; rare. This is a true *Vertigo*, and has not the slightest vestige of the lower pair of tentacles. The animal is of a light straw-colour, and differs, besides, from that of *V. pygmæa* (which is not uncommon in the same locality) in having a longer foot and tentacles. It is the *Pupa Shuttleworthiana* of Charpentier, as previously identified by me (Ann. Nat. Hist. 3rd ser. vol. ii. p. 132); but I much doubt its being the *Vertigo alpestris* of the late Baron Férussac. Two specimens from his collection (only one of which, however, is entire) are preserved in the Jardin des Plantes at Paris, and labelled in the author's handwriting "Vertigo alpestris, nob., 4 D., Charp. No. 9. Alpes." In these specimens the longitudinal striæ are scarcely perceptible under a lens having a quarter-of-an-inch focus; and the shells are smooth, thin, and glossy in appearance. I am inclined to consider these specimens, and consequently the *V. alpestris* of Férussac (which is a mere MS. name, although adopted by Mr. Alder), to be a variety of *V. pygmæa*.

V. minutissima. Under stones at Harzgerode and Falkenstein; not common.

Pisidium pusillum, *P. nitidum*, and *P. Henslowianum* (var. *pulchellum*). Alexisbad; not common.

When we consider that the latitude of the district I have thus cursorily explored is nearly parallel to that of the south-eastern part of Great Britain, it is curious to observe how many species of Mollusca occur in the former, and not in the latter, region. These exceptions are by no means of species which comprise only a few or inconspicuous individuals, but on the contrary, the individuals are numerous and comparatively large. They are *Vitrina diaphana*, *Helix fruticum*, *H. incarnata*, *H. strigella*, *H. personata*, *Clausilia plicata*, *C. plicatula*, and *C. parvula*. One of them (viz. *Helix incarnata*) occurs as a Pleistocene fossil

in England. The only satisfactory mode of accounting for this partial distribution of land animals would seem to be the great and continual alterations which have, from time to time since the commencement of the Tertiary epoch, successively taken place in the relative position and quantity of land and water, caused by subsidence in some, and elevation in other parts; and geologists have yet a great deal to do and learn before they can elucidate this difficult problem.

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XLV.—On the Calyceraceæ.

By JOHN MIERS, F.R.S., F.L.S. &c.

[Continued from p. 288.]

4. ANOMOCARPUS.

I have already alluded to this genus, which differs from all others of this order in many essential characters. The inflorescence generally consists of a single head of a few florets standing upon a very short peduncle, in each axil of the dichotomously branching stems; the involucre is thin, membranaceous, cup-shaped, divided half-way down into a 5-toothed border, its receptacle being reduced to a small point scarcely larger than the summit of the peduncle, and in some instances quite void of paleæ. The achænia are remarkably dissimilar in form; in some the calycine lobes retain their original shape, or become almost obsolete, while in others they become greatly elongated into subulate, rigid, concave, straight, patent, and almost spinose expansions: hence the generic name, derived from *ἀνομος*, *inæqualis*; *καρπός*, *fructus*. This habit prevails in the three first-mentioned species; but in the fourth the stems disappear, the plant becoming completely depressed and cæspitose; the cauline leaves thus come to be entirely radical and radiating, each bearing upon its petiole an almost sessile capitulum, the whole plant forming a somewhat hemispherical head, as in the genus *Nastanthus*. This species is the *Calycera pulvinata* of Remy, from whose description it formerly appeared to me to constitute a new genus, which I suggested under the name of *Discophytum* (Lindl. Veg. Kingd. 703), agreeing with *Nastanthus* in its peculiar habit, and approaching *Anomocarpus* in other respects. Subsequently I obtained a sight of the plant, and its examination convinced me that it agrees perfectly with the latter genus in its floral and carpological structure, and is dissimilar in no respect except in its habit, which is entirely due to the complete depression of its axis, by which it is reduced to cæspitose proportions. Each capitulum represents a depressed